CLAIMS

1. A method for reducing cyclo-stationary cross-talk noise from a narrow band time divided duplex (TDD) system into a wide band transmission system in a copper wire-pair network, wherein the TDD system operates in a lower part of the spectrum, **characterised** in that the wide band transmission system operates with frequency divided duplex (FDD), the wide band being divided in at least two bands (A, B), such that the lower band (A) is at least partly overlapping the TDD system and the lower (A) and the higher band (B) are transmitting in opposite directions, and in that the transmission direction in the frequency bands is switched so that the lower band of the wide band transmission system always transmits in the same direction as the TDD system.

2. A method in accordance with claim 1, **characterised** in that the frequency bands of the wide band transmission system is switched by means of a synchronisation signal derived from the TDD system.

3. A method in accordance with claim 2, **characterised** in that the synchronisation signal is substantially synchronous with the cyclo-stationary cross-talk noise from the TDD system.

4. A method in accordance with claim 1, 2 or 3, **characterised** in that the wide band is divided into an even number of bands, arranged in pairs, such that the lower and the higher band in each pair are transmitting in opposite directions.

5. A method in accordance with any one of the previous claims, **characterised** in that the wide band transmission system is a very high bit-rate digital subscriber line (VDSL) system or an asymmetric digital subscriber line (ADSL) system.

6. A method in accordance with any one of the previous claims, **characterised** in that the narrow band transmission system is a time compressed mode integrated services digital network (TCM – ISDN) system.

7. An arrangement for reducing cyclo-stationary cross-talk noise from a narrow band time divided duplex (TDD) system into a wide band transmission system in a copper wire-pair network, wherein the TDD system operates in a lower part of the spectrum, **characterised** in that the wide band transmission system is adapted to operate with frequency divided duplex (FDD), the wide band being divided in at least two bands (A, B), such that the lower band (A) is at least partly overlapping the TDD system, and the lower (A) and the higher band (B) are transmitting in opposite directions, and in that the wide band transmission system is associated with a switching means adapted to switch the transmission direction in the frequency bands, so that the lower band of the wide band transmission system always transmits in the same direction as the TDD system.

8. An arrangement in accordance with claim 7, **characterised** in that the switching means is trigged by a synchronisation signal derived from the TDD

system to switch the frequency bands of the wide band transmission system.

9. An arrangement in accordance with claim 8, **characterised** in that the synchronisation signal is substantially synchronous with the cyclo-stationary cross-talk noise from the TDD system.

10. An arrangement in accordance with claim 7, 8 or 9, **characterised** in that the wide band is divided into an even number of bands, arranged in pairs, such that the lower and the higher band in each pair are transmitting in opposite directions.

11. An arrangement in accordance with any one of claims 7 to 10, **characterised** in that the wide band transmission system is a very high bit-rate digital subscriber line (VDSL) system or an asymmetric digital subscriber line (ADSL) system.

12. An arrangement in accordance with any one of claims 7 to 11, **characterised** in that the narrow band transmission system is a time compressed mode integrated services digital network (TCM – ISDN) system.

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